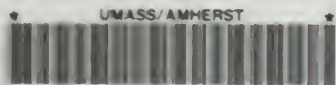


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Cigarette Smoking Among

Massachusetts Adolescents

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Cigarette Smoking Among Massachusetts Adolescents

In 1987 Health and Addictions Research, Inc. conducted two studies on adolescent substance use in the state of Massachusetts for the Department of Public Health Division of Substance Abuse Services. In the Spring of 1987 a seven year longitudinal study of students' initiation into and innibition from drug use was begun with 942 sixth grade students from 26 schools in 13 communities across the state. In the Fall of 1987 a cross-sectional study of 2,283 randomly selected seventh through twelfth graders (stratified by grade and health planning area) was completed. A similar statewide cross-sectional study was carried out in the Fall of 1984 and provides a basis for comparison and trend analysis over time. All of these studies addressed prevalence and incidence of cigarette, alcohol, and drug use, age of first use, frequency and amount of use, availability of substance, and intentions to continue use.

This report summarizes the research findings on cigarette use by Massachusetts students. The information should be useful to the Department of Public Health in its ongoing smoking prevention policies and campaign.

Lifetime and Current Use of Cigarettes

Both lifetime and current use of cigarettes increased incrementally by age (see Table 1). The numbers increased from a low lifetime prevalence of 16 percent of sixth graders to 37 percent of seventh graders, 56 percent of eighth graders, 58 percent of ninth graders, 65 percent of tenth graders, 72 percent of eleventh graders, and 70 percent of twelfth graders. The percent change between grades is greatest among the lower grades, particularly between grades six and eight. A 135 percent increase

in lifetime use of cigarettes occurred between sixth and seventh grade, and a 50 percent increase between seventh and eighth grade, with a leveling off of use in the higher grades.

A somewhat different pattern of cigarette use emerged among current users (use of cigarettes within the 30 days prior to the survey). Seven percent of sixth graders reported use in this time frame, followed by 12 percent of seventh graders, 16 percent of eighth graders, 32 percent of ninth graders, 28 percent of tenth graders, 35 percent of eleventh graders, and 31 percent of twelfth graders. A 63 percent increase in current use occurred between grades six and seven, a 35 percent increase between grades seven and eight, and a 106 percent increase between grades eight and nine. Current use, however, actually declined slightly between ninth and tenth and eleventh and twelfth grades.

Comparison to 1984 Cross-sectional Survey

Lifetime cigarette usage showed some decline between the 1984 and 1987 cross-sectional surveys. About 48 percent of seventh and eighth graders had tried cigarettes in their lifetime in 1984 as compared to 46 percent in 1987. For ninth through twelfth graders, 69 percent had tried cigarettes in 1984 versus 66 percent in 1987. Current use of cigarettes showed a greater decline among seventh and eighth graders: 21 percent had smoked in the 30 days prior to the survey in 1984 versus 14 percent in 1987. This decrease, however, was not reflected among ninth through twelfth graders: about one third were current users in both 1984 (34%) and 1987 (32%).

Use of smokeless tobacco also decreased between 1984 and 1987 (see Table 2). Approximately 15 percent of senior high students reported using



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it in the past year (the only time period for which the question was asked in 1984) versus 9 percent in 1987. The drop in use was greatest among ninth graders (from 14% to 4%) and eleventh graders (16% to 6%).

Gender Differences in Smoking

Consistently more girls smoked than boys, a pattern evident as early as sixth grade. For lifetime use, 17 percent of the girls had tried cigarettes by the sixth grade as compared to 14 percent of the boys (see Table 3). Average age of first use for both girls and boys was 10 years of age. Girls' lifetime use of cigarettes leveled off around tenth grade, with three-fourths of the girls having tried cigarettes by this time. Boys' lifetime use trends continue to rise by grade until 68 percent of them had tried cigarettes by twelfth grade.

Girls' current use of cigarettes exceeded boys' current use at all grade levels. Between grades 7 and 12, 31 percent of girls reported current use versus 20 percent of the boys. The lowest current use for girls in the secondary grades occurred in grade 7 (14%) and the highest use in grade 11 (44%). Lowest current use for boys also occurred in grade 7 (10%), while highest use was in grade 12 (29%).

Ethnic Differences

In regard to ethnic group, more Black and Hispanic students had tried cigarettes at an earlier age than did white students (see Table 4). In the sixth grade 24 percent of Black and Hispanic students reported lifetime use of cigarettes versus 14 percent of the white students. In grades 7 through 12, however, white students (61%) accounted for the highest percentage of cigarette smokers in their lifetimes, followed by Black

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(54%), Hispanic (50%), and Asian (41%) students. This pattern held true for current cigarette use as well. About 27 percent of white students, 20 percent of Black students, 19 percent of Hispanic students, and 15 percent of Asian students had smoked cigarettes in the month prior to the survey.

Quantity Smoked and Availability

Three-fourths of the senior high students (grades 9 through 12) stated they had not smoked in the week prior to the survey. About 8 percent reported they smoked less than half a pack during this time, 9 percent smoked up to three packs a weeks, and 8 percent smoked more. In terms of where students who smoked acquired their cigarettes, 39 percent of the students mentioned gas stations/convenience stores, 31 percent friends and family, 23 percent other types of stores, and 18 percent vending machines.

Smokeless Tobacco

Four out of five students (81%) in grades 9 through 12 had never used smokeless tobacco: 10 percent had tried it once or twice in their lifetimes. About 9 percent had tried smokeless tobacco in the past year; three percent had used it in the past month. Boys were overwhelmingly more likely to use it than girls.

Recommendations

To summarize, by the time students entered the tenth grade, the majority of those who were going to smoke had already begun to do so. Consistently more girls smoked than did boys. A greater percentage of white students smoked than did Black, Hispanic, or Asian students. However, more Black and Hispanic students tried cigarettes at a younger

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age than did white students. The lower percentage of minority smokers could be due partly to a differential drop-out rate from school, where minority adolescents may be underrepresented.

These findings emphasize the importance of targeting anti-smoking campaigns to youth, especially minority students, before the age of 10 and of heavily concentrating prevention efforts on grades six through nine. Particular emphasis should be placed on girls. Although smokeless tobacco is not widely used, its dangers should be addressed, especially among older male students.

A health concern is the quantity of cigarettes being smoked. Among the students who reported smoking within a week prior to the survey, over one third (36%) stated they smoked more than three packs a week, and another third (35%) typically smoked between one half pack to three packs a week.

The availability of cigarettes is another concern. Despite the fact it is illegal to sell cigarettes to minors, retail stores were the source of cigarettes for almost two thirds (62%) of the students who smoked, and vending machines accounted for availability to another 18 percent. The effect of the impending cigarette sales tax and increased price of cigarettes on the percentage of students who smoke and the quantity they smoke is important to follow.

It is interesting to note that, although illicit drug use dropped for all age groups of adolescents between 1984 and 1987, the use of the two substances perceived to be legal and widely used by adults, cigarettes and alcohol, remained steady among adolescents. The implications are that, if we want adolescents not to smoke, we need to continue with aggressive community-based intervention models that incorporate both health education and health protection components and are targeted to both adolescents and adults.

Table 1

Lifetime^a and Current^b Use of Cigarettes by Grade:
Comparison of 1984 and 1987 Cross-Sectional Studies

	Grade						
	6th %	7th %	8th %	9th %	10th %	11th %	12th %
Lifetime							
1987	15.7	36.9	55.5	58.4	65.4	71.6	70.1
1984	--	48.3 ^c		63.6	65.5	73.7	71.5
Current							
1987	7.1	11.6	15.6	32.1	28.4	34.8	31.4
1984	--	20.7		28.8	33.0	38.7	33.7

^aLifetime = ever used.

^bCurrent = used in 30 days prior to survey.

^c7th and 8th grades analyzed together.

Table 2

Comparison of 1984 and 1987 School Surveys on

Use of Smokeless Tobacco in Past Year

By Grade

Frequency	8th		10th		11th		12th	
	'84 (N=1177) %	'87 (N=446) %	'84 (N=1100) %	'87 (N=341) %	'84 (N=1298) %	'87 (N=388) %	'84 (N=1238) %	'87 (N=349) %
Never	85.7	86.3	84.2	87.7	84.1	93.1	86.4	87.7
Once or Twice	8.5	2.2	9.6	5.3	8.6	4.5	9.0	6.0
Several (3-9 times)	4.2	2.1	4.3	4.7	5.0	2.1	3.0	3.2
Often (10 or more)	1.6	0.7	1.9	2.3	2.2	0.3	1.5	3.1
Any Use in Past Year	14.3	4.0	15.8	12.7	15.8	6.1	13.7	12.3
Lifetime Use (1987)	--	11.6	--	19.6	--	20.9	--	25.8
Use 10 Days Prior to Survey (1987)	--	1.6	--	4.7	--	1.6	--	3.7

Table 3
Lifetime^a and Current^b Use of Cigarettes
By Sex and Grade in 1987

	Grade						
	6th %	7th %	8th %	9th %	10th %	11th %	12th %
Lifetime							
Boys	13.7	38.9	53.4	55.3	54.0	67.8	68.3
Girls	17.2	34.9	57.2	60.4	76.1	75.7	72.3
Current							
Boys	7.1	9.7	10.8	27.9	18.9	26.6	29.4
Girls	7.2	13.5	20.4	35.2	37.7	43.8	34.2

^aLifetime = ever used.

^bCurrent = used in 30 days prior to survey.

Table 4
Lifetime^a and Current^b Use of Cigarettes
By Ethnic Group

	Asian (n=80) %	Hispanic (n=72) %	Black (n=139) %	White (n=1,953) %
Lifetime	41.3	50.0	53.6	61.1
Current	15.0	19.4	19.7	26.9

^aLifetime = ever used.

^bCurrent = used in 30 days prior to survey.

